

Claims

1. Device for covering and sealing a hole (10) through a wall intended for leading cables through the latter, having a retaining frame (16) that can be fastened to the edge (66) of the hole through the wall (10), and several bushes (30, 31) made of elastomer material, at least one part of which is provided with at least one passage opening (32) for a cable, **characterized in that** the frame openings (28) are open on one side for insertion of the bushes (30, 31), and that at least one of the bushes (31) that can be inserted into the frame openings, in each instance, can be fixed in place in the insertion direction, in the region of the side walls (36) that delimit the frame opening (28).
2. Device according to claim 1, **characterized in that** the frame openings (24) are open crosswise to the passage opening (32).
3. Device according to claim 1 or 2, **characterized in that** the at least one bush can be arrested in the insertion direction.
4. Device according to one of claims 1 to 3, **characterized in that** the side walls (36) of the frame openings (28) are provided with catch depressions (38) for accommodating catch

organs (42) that project laterally, partially above the bush surface (40).

5. Device according to one of claims 1 to 4, **characterized in that** the bushes are provided with lateral catch depressions or catch edges for accommodating catch organs on the side walls that project inward, partially above the side walls.
6. Device according to claim 4, **characterized in that** the catch organs (42) are embedded at least partially in the bush material.
7. Device according to one of claims 4 to 6, **characterized in that** the catch organs (42) are configured to be bendably elastic.
8. Device according to one of claims 4 to 7, **characterized in that** the catch organs (42) consist of a rigid or rigid elastic component embedded in the bush material, preferably made of plastic or metal.
9. Device according to one of claims 4 to 8, **characterized in that** a cavity (52) assigned to the catch organ (42) is

disposed within the filler material, into which the catch organ (42) dips temporarily during the engagement process.

10. Device according to one of claims 1 to 9, **characterized in that** at least one part of the bushes (30, 31) consists of two bush halves (31', 31'') that face one another on the side of the passage opening (32), and mutually complement one another, preferably configured with mirror symmetry, which have a catch organ (42) or a catch depression on sides facing away from one another, in each instance.
11. Device according to claim 10, **characterized in that** the bush halves (31', 31'') are connected with one another, at one join (54), preferably in one piece, in hinge-like manner, and are open on the side (56) that lies opposite the join (54), forming an edge opening (34).
12. Device according to claim 11, **characterized in that** the bush halves (31', 31'') have a film hinge (55) at the closed join (54).
13. Device according to one of claims 1 to 12, **characterized in that** the sides that lie opposite one another, the side walls

(36) that delimit the frame openings (34) are oriented parallel to one another.

14. Device according to claim 13, **characterized in that** the catch depressions (38) or catch projections assigned to the frame openings lie opposite one another as mirror images on the related side walls (36).
15. Device according to one of claims 1 to 14, **characterized in that** the passage openings (32) of the bushes (30, 31) are disposed outside the center in the insertion direction, forming two wall parts (62, 64) of unequal thickness.
16. Device according to claim 15, **characterized in that** the catch organs (42) of the bushes (30, 31) are asymmetrically disposed on the side of the thicker wall part (64).
17. Device according to claim 15 or 16, **characterized in that** two bushes (30, 31) in each instance, are disposed in a frame opening (28), in such a manner that they rest against one another with their thin-walled wall parts (62) and face away from one another with their thick wall parts (64).

18. Device according to claim 17, **characterized in that** only one bush (31) can be arrested in each frame opening, in each instance, with the side walls (36) of the frame opening (28).
19. Device according to one of claims 1 to 18, **characterized in that** the retaining frame (16) can be screwed onto the edge (66) of the hole through the wall.
20. Device according to one of claims 1 to 19, **characterized in that** the essentially rectangular retaining frame (16) has two closed narrow side edges (18) and one closed broad side edge (20), while the opposite broad side edge (22) is open.
21. Device according to claim 20, **characterized in that** the retaining frame (16) is provided with fixation tabs (72) that project towards the side of the hole (10) through the wall, and can be arrested on the edge (66) of the hole through the wall, in the region of its closed narrow side edges (18).
22. Device according to claim 21, **characterized in that** the fixation tabs (72) are configured as loose components that can be fixed in place with a positive lock in an adapted pass-through opening (70) in the closed narrow side edges (18) of the retaining frame (16).

23. Device according to claim 21 or 22, **characterized in that** the fixation tabs (72) have a catch pocket (74) that surrounds the edge (66) of the hole through the wall (12), as well as a catch element (78) that can engage on the retaining frame (16) in the region of the pass-through opening.
24. Device according to one of claims 21 to 23, **characterized in that** the fixation tabs (72) have an activation organ (76) that projects beyond the retaining frame (16) on the front, to produce and/or release the catch connection with the edge (66) of the hole through the wall.
25. Device according to one of claims 4 to 24, **characterized in that** the catch organs have a spring stay (44) that is oriented parallel to the side wall (40) of the bush (30, 31) or the bush halves (31', 31''), which can be bent into a cavity (52) in the bush material, in spring-like manner, and a catch cam (46) that is molded onto the free end of the spring stay.
26. Device according to one of claims 4 to 25, **characterized in that** the catch organs (42) are embedded in one of the bush

halves (31', 31''), in each instance, as components that are separate from one another.

27. Device according to one of claims 4 to 26, **characterized in that** the catch organs (42) are connected with one another by way of a connecting stay (60) that penetrates or surrounds the bush.
28. Device according to one of claims 25 to 27, **characterized in that** the catch cams (46) have a run-up incline (48) that faces in the insertion direction, and a catch surface (50) that follows the run-up incline at the back, facing opposite the insertion direction.
29. Device according to one of claims 25 to 27, **characterized in that** the catch depressions (38) in the side walls (36) are formed to be complementary to the catch cams (46) of the bushes (31) that form the closure piece.
30. Bush for a cable lead-through device (14) having a retaining frame provided with frame openings, which consists of elastomer material and is provided with at least one passage opening (32) for a cable, **characterized by** two catch organs (42) that project beyond the bush surface (40) towards

opposite sides, which can engage into catch depressions in the side walls of the frame openings.

31. Bush according to claim 30, **characterized in that** the catch organs (42) are at least partially embedded in the bush material.
32. Bush according to claim 30 or 31, **characterized in that** the catch organs (42) are configured to be bendably elastic.
33. Bush according to one of claims 30 to 32, **characterized in that** the catch organs (42) consist of a rigid or rigid elastic component embedded in the bush material, preferably made of plastic or metal.
34. Bush according to one of claims 30 to 33, **characterized in that** a cavity (52) is configured within the bush material, into which the catch organ (42) can be bent during the engagement process.
35. Bush according to one of claims 30 to 34, **characterized in that** it consists of two bush halves (31, 31') that face one another on the side of the passage opening (32), and mutually complement one another, preferably configured with mirror

symmetry, which have a catch organ (42) or a catch depression on sides facing away from one another, in each instance.

36. Bush according to claim 35, **characterized in that** the bush halves (31', 31'') are connected with one another, at one join (54), preferably in one piece, in hinge-like manner, and are open on the opposite join (56), forming an edge opening (34) that leads to the passage opening (32).
37. Bush according to claim 36, **characterized in that** the bush halves (31', 31'') have a film hinge (55) at the closed join (54).
38. Bush according to one of claims 30 to 37, **characterized in that** the passage opening (32) is disposed outside the center, forming two wall parts (62, 64) of unequal thickness.
39. Bush according to claim 38, **characterized in that** the catch organs (42) are disposed on the side of the thicker wall part (64).
40. Bush according to one of claims 30 to 39, **characterized in that** the catch organs (42) have a spring stay (44) that is oriented parallel to two opposite side walls, which can be

bent into a cavity (52) in the bush material, and a catch cam (46) that is molded onto the free end of the spring stay (44).

41. Bush according to one of claims 30 to 40, **characterized in that** the catch organs (42) are embedded in the bush material as components that are separate from one another.

42. Bush according to one of claims 30 to 40, **characterized in that** the catch organs (42) are connected with one another by way of a connecting stay (60) that penetrates or surrounds the bush.

43. Bush according to one of claims 30 to 42, **characterized in that** the catch cam (46) has a run-up incline (48) and a catch surface (50) that follows the run-up incline (48), by way of a catch edge.